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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/480,986	01/10/2000	MICHAEL BOLOTSKI	18035-001010	5021

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EXAMINER

PIZIALI, JEFFREY J

ART UNIT	PAPER NUMBER
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2673

DATE MAILED: 02/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/480,986

Applicant(s)

BOLOTSKI ET AL.

Examiner

Jeff Piziali

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

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DETAILED ACTION

Continued Prosecution Application

1. The request filed on November 22, 2002 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/480,986 is acceptable and a CPA has been established. An action on the CPA follows.

Drawings

2. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required if the application is allowed.

3. The corrected or substitute drawings were received on March 12, 2002. These drawings are acceptable.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 5 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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6. Claim 5 recites the limitation "the illumination source" in line 2. There is insufficient antecedent basis for this limitation in the claim.

7. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: the relationship between the step of applying "a first paint voltage during a third time period and a second paint voltage during a forth time period" (see claim 9, lines 14-15) and the step of applying "a third paint voltage to one pixel element from the plurality of pixel elements during a forth time period" (see claim 11, lines 2-3). It would be unclear to a skilled artisan whether claim 11's "a forth time period" is the same as the "forth time period" of claim 9, or whether the two time periods are different from one another in some way.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-21 are rejected under 35 U.S.C. 102(e) as being anticipated by McKnight (US 6,144,353).

Regarding claim 1, McKnight discloses a method for operating a display having a plurality of pixels, comprising: applying a single transition voltage [Fig. 2C, 151] to the pixels

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[Fig. 3A, 208] on the display during a first period of time, each pixel including liquid crystal material having at least a first state [i.e. "dark"] and a second state [i.e. "bright"], wherein a transition of the liquid crystal material from the first state to the second state has an associated first transition time [Fig. 2C, t_1-t_2], wherein a transition of the liquid crystal material from the second state to the first state has an associated second transition time [Fig. 2C, t_2-t_3], wherein the first transition time is longer than the second transition time, and wherein the single transition voltage induces liquid crystal material in each pixel to begin transitioning to the second state (see Column 10, Lines 1-50); applying a first paint voltage to a pixel [Fig. 3A, 206] during a second period of time, wherein the first paint voltage induces liquid crystal material in the pixel to a third state [i.e. first data defined brightness level]; waiting a predetermined time period; illuminating the pixel [Fig. 3A, 210]; applying the single transition voltage to the pixels [Fig. 3A, 212] on the display during a third period of time; thereafter applying a second paint voltage to the pixel [Fig. 3A, 214] during a forth period of time, wherein the second paint voltage induces the liquid crystal material in the pixel to a fourth state [i.e. second data defined brightness level]; waiting the predetermined time period; and illuminating the pixel [Figs. 3A-B, 216 & 218]; wherein the single transition voltage is between the first paint voltage and the second paint voltage (see Column 11, Line 26 - Column 12, Line 47).

Regarding claims 2, 10 and 18, McKnight discloses illuminating the pixel with an illumination source [Fig. 2A, 114] of first and second colors (see Column 9, Lines 24-28).

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Regarding claims 3 and 11, McKnight discloses applying the single transition voltage to the pixels [Fig. 3B, 224] on the display during a fifth period of time, wherein the transition voltage induces liquid crystal material in each pixel to begin transitioning to the second state (see Fig. 2C, 154); thereafter applying a third paint voltage to the pixel [Fig. 3B, 222] during a sixth period of time, wherein the third paint voltage induces the liquid crystal material in the pixel to a fifth state [i.e. third data defined brightness level]; waiting the predetermined time period; and illuminating the pixel [Fig. 3B, 226]; wherein comprising an illumination source [Fig. 2A, 114] of first, second and third colors (see Column 9, Lines 24-28).

Regarding claims 4, 12 and 19, McKnight discloses red, green and blue colors (see Column 9, Lines 24-28).

Regarding claim 5, McKnight discloses illuminating the pixel with an illumination source [Fig. 2A, 114] (see Column 9, Lines 16-43).

Regarding claims 6, 14 and 20, McKnight discloses applying the single transition voltage to all the pixels at one time while holding a common electrode [Fig. 2A, 108] at a constant value [Fig. 2C, 151 between t_1 and t_2] (see Column 10, Lines 1-50).

Regarding claims 7 and 15, McKnight discloses applying the single transition voltage to a first row of pixels while holding a common electrode [Fig. 2A, 108] at a constant value [Fig. 2C, 151 between t_1 and t_2] (see Column 10, Lines 1-50), and thereafter applying the single transition

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voltage to a second row of pixels while holding a common electrode at a constant value [Fig. 2C, 151 between t_5 and t_6] (see Column 11, Line 33 - Column 12, Line 12).

Regarding claims 8 and 16, McKnight discloses applying the single transition voltage to a first column of pixels while holding a common electrode [Fig. 2A, 108] at a constant value [Fig. 2C, 151 between t_1 and t_2] (see Column 10, Lines 1-50), and thereafter applying the single transition voltage to a second column of pixels while holding a common electrode at a constant value [Fig. 2C, 151 between t_5 and t_6] (see Column 11, Line 33 - Column 12, Line 12).

Regarding claim 9, this claim is rejected under the reasoning applied in the above rejection of claim 1, furthermore, McKnight discloses a transaction circuit [Fig. 2A, 110] coupled to each pixel; a paint circuit [Fig. 2A, 102] coupled to the transaction circuit; a timer circuit [Fig. 2A, 112] coupled to the paint circuit; and an illumination circuit coupled to the timer circuit [Fig. 2A, 114 & 116] (see Column 9, Lines 16-43).

Regarding claim 13, McKnight discloses the illumination circuit comprises a monochromatic illumination source (see Column 9, Lines 24-25).

Regarding claim 17, this claim is rejected under the reasoning applied in the above rejection of claim 1, furthermore, McKnight discloses an initialization circuit [Fig. 2A, 110] coupled to the pixels; a driving circuit [Fig. 2A, 102] coupled to the initialization circuit; and an

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illumination circuit [Fig. 2A, 114 & 116] coupled to the driving circuit (see Column 9, Lines 16-43).

Regarding claim 21, McKnight discloses the initial voltage [Fig. 3A, 212] is between the first [Fig. 3A, 206] and second [Fig. 3A, 214] drive voltages (see Column 11, Line 33 - Column 12, Line 12).

Response to Arguments

10. Applicants' arguments filed October 4, 2002 have been fully considered but they are not persuasive. The applicants contend the prior art of McKnight fails to disclose applying a single transition/initial voltage to the plurality of pixel elements on the display during a first period of time and during a second period of time. The examiner must, however, respectfully disagree. McKnight does indeed teach applying a single transition/initial voltage [Fig. 2C, 151] to the plurality of pixel elements [Fig. 2A, 104] on the display [Fig. 2A, 101] during a first period of time [Fig. 2C, t_1 - t_2] and during a second period of time [Fig. 2C, t_5 - t_6] (see Column 11, Line 26 - Column 12, Line 47). By such above reasoning, the rejection of claims 1-21 is deemed proper and thereby maintained.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (703) 305-8382. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (703) 305-4938. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.



J.P.

February 4, 2003


BIPIN SHALWALA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER